

## CLAIMS

1. An aluminum nitride sintered body containing sulfur.
- 5 2. The aluminum nitride sintered body according to claim 1,  
wherein the content of said sulfur is in a range of 0.05  
to 200 ppm.
- 10 3. The aluminum nitride sintered body according to claim 1 or  
2,  
wherein said aluminum nitride sintered body contains  
oxygen.
- 15 4. An aluminum nitride sintered body,  
wherein said aluminum nitride sintered body exhibits a  
state of intragranular fracture at the time of fracture and the  
average grain diameter of a ceramic grain thereof is 3  $\mu\text{m}$  or  
less.
- 20 5. A ceramic substrate having a conductor inside thereof or on  
the surface thereof,  
wherein said ceramic substrate has been sintered such that  
a sectional view of fracture thereof exhibits intragranular  
fracture.
- 25 6. The ceramic substrate according to claim 5,  
wherein the average grain diameter of a ceramic grain  
thereof is 3  $\mu\text{m}$  or less.
- 30 7. The ceramic substrate according to claim 5 or 6,  
wherein said ceramic substrate comprises nitride ceramic  
and said nitride ceramic contains sulfur therein.
- 35 8. The ceramic substrate according to any of claims 5 to 7,  
wherein the content of said sulfur is in a range of 0.05

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to 200 ppm.

9. The ceramic substrate according to any of claims 5 to 8,  
wherein said ceramic substrate contains oxygen.

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10. A ceramic heater,  
wherein the ceramic substrate according to any of claims  
5 to 9 is used.

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11. An electrostatic chuck,  
wherein the ceramic substrate according to any of claims  
5 to 9 is used.

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12. A ceramic substrate having a conductor inside thereof or  
on the surface thereof,  
wherein the average grain diameter of the ceramic grain  
of said ceramic substrate is 2  $\mu\text{m}$  or less.

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13. A ceramic heater,  
wherein the ceramic substrate according to claim 12 is  
used.

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14. An electrostatic chuck,  
wherein the ceramic substrate according to claim 12 is  
used.

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15. A ceramic substrate having a conductor formed inside thereof  
for a semiconductor producing/examining device,  
wherein:

a ceramic layer including said conductor and the vicinity  
thereof and a ceramic layer located lower than said conductor  
exhibit a state of intergranular fracture at the time of fracture;  
and

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a ceramic layer other than said ceramic layers exhibits  
a state of intragranular fracture at the time of fracture.

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16. An electrostatic chuck having an electrostatic electrode and a resistance heating element formed inside a ceramic substrate thereof,

5        wherein:

        a ceramic layer including said conductor and the vicinity thereof and a ceramic layer located lower than said conductor exhibit a state of intergranular fracture at the time of fracture; and

10       a ceramic layer other than said ceramic layers exhibits a state of intragranular fracture at the time of fracture.

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